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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,754	09/03/2004	Stanislav Mikhaylovich Kochergin		7052

51896 7590 08/10/2007
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EXAMINER

KURTZ, BENJAMIN M

ART UNIT	PAPER NUMBER
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1723

MAIL DATE	DELIVERY MODE
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08/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/506,754	Applicant(s) KOCHERGIN ET AL.	
	Examiner Benjamin Kurtz	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-26 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-26 and 28-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 9/3/04 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because no copies of the foreign patent documents have been received. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Specification

2. The abstract of the disclosure is objected to because the abstract exceeds 150 words in length. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 28 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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Claim 28 recites, "...said chemically active substance..." Claim 25, from which claim 28 depends, recites the protection additional layer is a chemically inert substance. The substance cannot be both chemically active and inert.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 28 recites the limitation "said chemically active substance". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102 and 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 18-20 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nagaoka US 6 488 842.

Regarding claim 18, Nagaoka teaches a filter comprising: a housing (2) provided with an inlet branch pipe (3), an outlet branch pipe (6) and a drain branch pipe (4) with shutoff valves (col. 5, line 67 – col. 6, line 2), a main filtration element composed of an ion-exchange material and having inlet and outlet surfaces for a liquid being filtered, said ion exchange material of said main filtration element being volumetric with a predetermined geometric shape, is armored by a load bearing reinforcement (18) attached to a perforated support (19) and forming a continuous porous framework of microglobules (22) with pores of predetermined size in correspondence with parameters of cleaning, an additional filtration correction protection layer (23) covering an inlet surface of said filtration element and composed of a finely grained substance introduced in form of powder deposited on said inlet surface of said main filtration element so that a powder granule size is greater than a size of ion exchange material pores (fig. 4, 5). Determination of “product by process” claims is based upon product alone, In re Thorpe, 227 USDQ 964 (1985). The expressions for the filtration mass volume are dependent on of required flow rate of liquid being purified. Because a flow rate is not a structural limitation but a process limitation the determination of the filtration mass volume as taught by Nagaoka is deemed a structural equivalent to the process of determining the filtration mass volume expressions. The process of adding the additional filtration correction layer and retaining it on the mail filtration element as taught by Nagaoka is deemed a structural alternative to the process of introducing the additional filtration

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correction protection layer by a loading valve into a flow of filtration liquid and having it retained on the main filtration element by a liquid velocity. The expressions for the volume of additional filtration correction layer are volumetric formulas for any layer of a substance on the specified surfaces and therefore the additional layer of Nagaoka will inherently conform to the claimed expressions.

Regarding claim 19, Nagaoka further teaches the filter is formed as a hollow cylinder (fig. 2).

Regarding claim 20, Nagaoka teaches the inlet surface has a greater surface area than the outlet surface but does not give a specific ratio. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the ratio of the inlet surface area to the outlet surface area of 1.6-2.6 to provide an adequate amount of filtration material between the two surfaces. [W]here the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device, *Gardner v. TEC Systems, Inc.*, 220 USPQ 777 (1984).

Regarding claim 25, Nagaoka teaches a filter comprising: a housing (2) provided with an inlet branch pipe (3), an outlet branch pipe (6) and a drain branch pipe (4) with shutoff valves (col. 5, line 67 – col. 6, line 2), a main filtration element composed of an ion-exchange material and having inlet and outlet surfaces for a liquid being filtered, said ion exchange material of said main filtration element being volumetric with a predetermined geometric shape, is armored by a load bearing reinforcement (18)

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attached to a perforated support (19) and forming a continuous porous framework of microglobules (22) with pores of predetermined size in correspondence with parameters of cleaning, an additional filtration correction protection layer (23) covering an inlet surface of said filtration element and composed of a finely grained substance introduced in form of powder deposited on said inlet surface of said main filtration element so that a powder granule size is greater than a size of ion exchange material pores, and the protection additional layer is composed of a filtration material which is chemically inert (col. 7, lines 4-6, fig. 4, 5). Determination of "product by process" claims is based upon product alone, In re Thorpe, 227 USDQ 964 (1985). The expressions for the filtration mass volume are dependent on of required flow rate of liquid being purified. Because a flow rate is not a structural limitation but a process limitation the determination of the filtration mass volume as taught by Nagaoka is deemed a structural equivalent to the process of determining the filtration mass volume expressions. The process of adding the additional filtration correction layer and retaining it on the main filtration element as taught by Nagaoka is deemed a structural alternative to the process of introducing the additional filtration correction protection layer by a loading valve into a flow of filtration liquid and having it retained on the main filtration element by a liquid velocity. The expressions for the volume of additional filtration correction layer are volumetric formulas for any layer of a substance on the specified surfaces and therefore the additional layer of Nagaoka will inherently conform to the claimed expressions.

6. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka '842. Nagaoka teaches the filter of claim 18 but does not teach the filter

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formed as a cone or flat. These configurations for water filters are well known in the art and would have been obvious to one of ordinary skill in the art at the time the invention was made because the conical configuration provides slightly more surface area than the cylindrical configuration and the flat configuration may be suited for a vertical column or other space restrictions.

7. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka '842 in view of Koslow US 2003/0111404. Nagaoka teaches the filter of claim 18 but does not teach the load bearing reinforcement is a fibrous non-woven sheet material. Koslow teaches an ion exchange material with a load bearing reinforcement of a synthetic non-woven sheet material (col. 5, lines 1-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the material of Koslow as the main filtration element because the sheet is made of high strength polymer for support and is flexible for different applications (col. 5, lines 1-14, col. 6, lines 43-52).

8. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka '842 in view of Kimmel US 5 670 046. Nagaoka teaches the filter of claim 18 but does not teach the additional protective layer having dolomite, a material that corrects pH value. Kimmel teaches a water filter have an initial filtration stage containing dolomite (col. 4, lines 40-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use dolomite because the dolomite maintains a higher pH to precipitate a portion of phosphorous compounds and other minerals (col. 1, lines 55-65).

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9. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka '842 in view of Discepolo et al. US 5 271 837. Nagaoka teaches the filter of claim 18 but does not teach the additional protection layer includes a bacteriostatic substance. Discepolo teaches a water filter with an initial filtration stage of silver activated charcoal (col. 6, lines 1-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the silver activate charcoal of Discepolo because the silver is a bactericidal agent (col. 2, lines 1-3).

10. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka '842 in view of Karbachsch et al. US 5 169 528. Nagaoka teaches the protection additional layer is chemically inert but does not teach the substance being perlite. Karbachsch teaches the use of perlite as an outer protection layer (21a, fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use perlite because it is a common filtration material and is filtration active (col. 7, lines 1-4).

11. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka '842 in view of Johnson US 3 715 287. Nagaoka teaches the protection additional layer is chemically active but does not teach the substance being formaldehyde resin. Johnson teaches treating water with carbon particles with formaldehyde resin filling the pores (col. 6, lines 46-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the particles of Johnson because the resin is permeable to cations but not to anions (col. 6, lines 60-62).

Response to Arguments

12. The office apologizes for any confusion regarding rejected claim 25. Claim 25 was not indicated allowable in the office action of 1/4/07, but was rejected as detailed on the bottom of page 6 of the previous office action of 1/4/07.

13. Applicant's arguments filed 6/28/07 have been fully considered but they are not persuasive. Applicant has argued that Nagaoka does not teach the filtration mass volume in accordance with the special expression or the additional element volume according to the corresponding expression. The mass volume expression is based on a required flow rate of liquid being purified. Because a flow rate is not a structural limitation but a process limitation the determination of the filtration mass volume as taught by Nagaoka is deemed a structural equivalent to the process of determining the filtration mass volume expressions. The expressions for the volume of additional filtration correction layer are volumetric formulas for any layer of a substance on the specified surfaces and therefore the additional layer of Nagaoka will inherently conform to the claimed expressions as the additional layer covers the surface of the filter.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin Kurtz whose telephone number is 571-272-8211. The examiner can normally be reached on Monday through Friday 8:00am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Benjamin Kurtz
Patent Examiner 1723
8/7/07

A handwritten signature in black ink, appearing to read 'K S Menon', written in a cursive style.

KRISHNAN MENON
PRIMARY EXAMINER